

K 3195.txt
SEQUENCE LISTING

<110> Deutsches Krebsforschungszentrum Stiftung des öffentlichen
Rechts
Niehrs, Christof
Wu, Wei
Glinka, Andrei
Kazanskay, Olga

<120> Compositions for diagnosis and therapy of diseases associated
with aberrant expression of Futrins (R-spondins)

<130> K 3195

<140> PCT/EP 2004/011269

<141> 2004-10-08

<150> EP 03 023 000.7

<151> 2003-10-10

<160> 32

<170> PatentIn version 3.2

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<223> oligonucleotide Rspo2Mo

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ttcatcctgc tggagagggaa cgacatccgc caggtggcg tctgcttgcc gtcctgccc		240
cctggatact tcgacgccc caacccgac atgaacaagt gcatcaattt ctctgcagta		300
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gcctgcttca gccataactt ctgcaccaag tgtaaggagg gcttgtaccc gcacaaggc		420
cgctgctatc cagttgtcc cgagggctcc tcagctgccat atggcaccat ggagtgcagt		480
agtccctgcgc aatgtgaaat gagcgagtgg tctccgtggg ggccctgctc caagaagcag		540
cagctctgtg gtttccggag gggctccgag gagcggacac gcagggtgct acatgcccct		600

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gtgggggacc	atgctgcctg	ctctgacacc	aaggagaccc	ggaggtgcac	agtgaggaga	660
gtgccgtgc	ctgaggggca	gaagaggagg	aagggaggcc	agggccggcg	ggagaatgcc	720
aacaggaacc	tggccagggaa	ggagagcaag	gaggcgggtg	ctggctctcg	aagacgcaag	780
gggcagcaac	agcagcagca	gcaagggaca	gtggggccac	tcacatctgc	agggcctgcc	840
tag						843

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	aagggttgtt	tgtcttgc	aaaggacaat	gggtgttagcc	gatgtcaaca	gaagttgttc	180
	ttcttccttc	gaagagaagg	gatgcgccag	tatggagagt	gcctgcattc	ctgcccattcc	240
	gggtactatg	gacaccgagc	cccagatatg	aacagatgtg	caagatgcag	aatagaaaac	300
	tgtgattctt	gcttttagcaa	agactttgt	accaagtgc	aaggtagctt	ttatttgcatt	360
	agaggccgtt	gctttgtatga	atgtccagat	ggttttgcac	cattagaaga	aaccatggaa	420
	tgtgttggaa	gatgtgaagt	tggtcattgg	agcgaatggg	gaacttgttag	cagaaataat	480
	cgcacatgtg	gatttaaatg	gggtctggaa	accagaacac	ggcaaattgt	taaaaagcca	540
	gtgaaagaca	caataccgtg	tccaaaccatt	gctgaatcca	ggagatgc	aatgacaatg	600
	aggcattgtc	caggaggaa	gagaacacca	aaggcgaagg	agaagaggaa	caagaaaaag	660
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<210> 22
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<213> Homo sapiens

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	tgccaaggag	gctgtcaac	atgctcagat	tacaatggat	gtttgtcatg	taagcccaga	180
	ctatttttg	ctctggaaag	aattggcatg	aagcagattg	gagtatgtct	ctcttcatgt	240
	ccaagtggat	attatggaaac	tcgatatacc	gatataaata	agtgtacaaa	atgcaaagct	300
	gactgtgata	cctgtttcaa	caaaaatttc	tgcacaaaat	gtaaaagtgg	atttactta	360
	caccttggaa	agtgccttga	caattgccc	gaagggttgg	aagccaacaa	ccatactatg	420
	gagtgtgtca	gtatttgca	ctgtgaggc	agtgaatgga	atccttggag	tccatgcacg	480
	aagaaggaa	aaacatgtgg	cttcaaaaga	gggactgaaa	cacgggtccg	agaaataata	540

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cagcatcctt cagcaaaggg taacctgtgt	cccccaacaa atgagacaag aaagtgtaca	600
gtgcaaagga agaagtgtca gaagggagaa	cgaggaaaaa aaggaaggga gaggaaaaga	660
aaaaaaccta ataaaggaga aagtaaagaa	gcaatacctg acagcaaaag tctggaatcc	720
agcaaagaaa tcccagagca acgagaaaac	aaacagcagc agaagaagcg aaaagtccaa	780
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gaaggcatcc gccagtagcg	caagtgcctg cacgactgtc cccctggta	240	
cgcggccagg aggtcaacag	cttcggcatc ttttacttgt acaagggaa	300	
caggacttct gcatccggtg	gtgtctgccc acctgcccgc	360	
acggcacttt ggcccaccag	cgggcactttt aacacacggg agtgcacggg	420	
ctgggtccct gggggggctg	ggagtgtaa acacacaatg gaaagacctg	480	
tggggcctgg agagccgggt	cggtcggtc ttttacttgt acaagggaa	540	
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agcccccggcc agaagaaggg	cggtcggtc ttttacttgt acaagggaa	660	
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ttctttctgc	tatggagact gtctgcagtc ctgcctccg	240	
ggatactatg	gagtcagagg acctgtatg aacaggtgtt	ccagatgcag aattgaaaat	300
tgcgactctt	gttttagtag agattttgc ataaagtgc	aatcgggctt ttactccctc	360
aaggggcaat	gctttgaaga atgcccagaa ggatttgac	cactggatga taccatggtg	420
tgtgtggatg	gtgcgaagt agggccatgg agtgaatggg	gcacatgcag ccgaaataac	480
agaacgtgcg	gtttcaaattg gggcctggag accagaacgc	gacaaattgt gaagaaacca	540
gcaaaagaca	ccatccctg cccaaactatt gctgaatcca	gaagatgtaa gatggcaata	600

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agacactgcc	ctggaggaaa	gagaactaca	aagaagaagg	acaagaggaa	caagaagaag	660
aaaaagaagt	tactggagag	ggcccaagag	cagcacagcg	tcgtccttgc	tacagaccgg	720
tctagccat	ag					732

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		20					25					30			

Ser	Ala	Glu	Gly	Ser	Gln	Ala	Cys	Ala	Lys	Gly	Cys	Glu	Leu	Cys	Ser
		35				40					45				

Glu	Val	Asn	Gly	Cys	Leu	Lys	Cys	Ser	Pro	Lys	Leu	Phe	Ile	Leu	Leu
		50			55				60						

Glu	Arg	Asn	Asp	Ile	Arg	Gln	Val	Gly	Val	Cys	Leu	Pro	Ser	Cys	Pro
		65		70				75				80			

Pro	Gly	Tyr	Phe	Asp	Ala	Arg	Asn	Pro	Asp	Met	Asn	Lys	Cys	Ile	Cys
				85				90		95					

Lys	Ile	Glu	His	Cys	Glu	Ala	Cys	Phe	Ser	His	Asn	Phe	Cys	Thr	Lys
		100				105						110			

Cys	Lys	Glu	Gly	Leu	Tyr	Leu	His	Lys	Gly	Arg	Cys	Tyr	Pro	Ala	Cys
		115			120				125						

Pro	Glu	Gly	Ser	Ser	Ala	Ala	Asn	Gly	Thr	Met	Glu	Cys	Ser	Ser	Pro
				130			135			140					

Ala	Gln	Cys	Glu	Met	Ser	Glu	Trp	Ser	Pro	Trp	Gly	Pro	Cys	Ser	Lys
		145		150				155			160				

Lys	Gln	Gln	Leu	Cys	Gly	Phe	Arg	Arg	Gly	Ser	Glu	Glu	Arg	Thr	Arg
			165			170			175						

Arg	Val	Leu	His	Ala	Pro	Val	Gly	Asp	His	Ala	Ala	Cys	Ser	Asp	Thr
			180			185			190						

Lys	Glu	Thr	Arg	Arg	Cys	Thr	Val	Arg	Arg	Val	Pro	Cys	Pro	Glu	Gly
		195		200				205							

Gln	Lys	Arg	Arg	Lys	Gly	Gly	Gln	Gly	Arg	Arg	Glu	Asn	Ala	Asn	Arg
		210		215				220							

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Asn Leu Ala Arg Lys Glu Ser Lys Glu Ala Gly Ala Gly Ser Arg Arg
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Arg Lys Gly Gln Gln Gln Gln Gln Gly Thr Val Gly Pro Leu
245 250 255

Thr Ser Ala Gly Pro Ala
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<210> 26

<211> 243

<212> PRT

<213> Homo sapiens

<400> 26

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20 25 30

Ser Tyr Val Ser Asn Pro Ile Cys Lys Gly Cys Leu Ser Cys Ser Lys
35 40 45

Asp Asn Gly Cys Ser Arg Cys Gln Gln Lys Leu Phe Phe Phe Leu Arg
50 55 60

Arg Glu Gly Met Arg Gln Tyr Gly Glu Cys Leu His Ser Cys Pro Ser
65 70 75 80

Gly Tyr Tyr Gly His Arg Ala Pro Asp Met Asn Arg Cys Ala Arg Cys
85 90 95

Arg Ile Glu Asn Cys Asp Ser Cys Phe Ser Lys Asp Phe Cys Thr Lys
100 105 110

Cys Lys Val Gly Phe Tyr Leu His Arg Gly Arg Ser Phe Asp Glu Cys
115 120 125

Pro Asp Gly Phe Ala Pro Leu Glu Glu Thr Met Glu Cys Val Glu Gly
130 135 140

Cys Glu Val Gly His Trp Ser Glu Trp Gly Thr Cys Ser Arg Asn Asn
145 150 155 160

Arg Thr Cys Gly Phe Lys Trp Gly Leu Glu Thr Arg Thr Arg Gln Ile
165 170 175

Val Lys Lys Pro Val Lys Asp Thr Ile Pro Cys Pro Thr Ile Ala Glu
180 185 190

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Ser Arg Arg Cys Lys Met Thr Met Arg His Cys Pro Gly Gly Lys Arg
195 200 205

Thr Pro Lys Ala Lys Glu Lys Arg Asn Lys Lys Lys Arg Lys Leu
210 215 220 225

Ile Glu Arg Ala Gln Glu Gly His Ser Val Phe Leu Ala Thr Asp Arg
225 230 235 240

Ala Asn Gln

<210> 27
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<212> PRT
<213> Homo sapiens

<400> 27

Met His Leu Arg Leu Ile Ser Trp Leu Phe Ile Ile Leu Asn Phe Met
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Glu Tyr Ile Gly Ser Gln Asn Ala Ser Arg Gly Arg Arg Gln Arg Arg
20 25 30

Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
35 40 45

Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala
50 55 60

Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys
65 70 75 80

Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr
85 90 95

Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr
100 105 110

Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn
115 120 125

Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser
130 135 140

Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr
145 150 155 160

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
165 170 175

Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro
 180 185 190

Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys
 195 200 205

Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn
 210 215 220

Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser
 225 230 235 240

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Arg Lys Val Gln Asp Lys Gln Lys Ser Val Ser Val Ser Thr Val His
 260 265 270

<210> 28
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 <213> Homo sapiens
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 20 25 30

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 35 40 45

Thr Cys Gln Gln Arg Leu Phe Leu Phe Ile Arg Arg Glu Gly Ile Arg
 50 55 60

Gln Tyr Gly Lys Cys Leu His Asp Cys Pro Pro Gly Tyr Phe Gly Ile
 65 70 75 80

Arg Gly Gln Glu Val Asn Arg Cys Lys Lys Cys Gly Ala Thr Cys Glu
 85 90 95

Ser Cys Phe Ser Gln Asp Phe Cys Ile Arg Cys Lys Arg Gln Phe Tyr
 100 105 110

Leu Tyr Lys Gly Lys Cys Leu Pro Thr Cys Pro Pro Gly Thr Leu Ala
 115 120 125

His Gln Asn Thr Arg Glu Cys Gln Gly Glu Cys Glu Leu Gly Pro Trp
 130 135 140

Gly Gly Trp Ser Pro Cys Thr His Asn Gly Lys Thr Cys Gly Ser Ala
 Seite 10

145

150

155

160

Trp Gly Leu Glu Ser Arg Val Arg Glu Ala Gly Arg Ala Gly His Glu
 165 170 175

Glu Ala Ala Thr Cys Gln Val Leu Ser Glu Ser Arg Lys Cys Pro Ile
 180 185 190

Gln Arg Pro Cys Pro Gly Glu Arg Ser Pro Gly Gln Lys Lys Gly Arg
 195 200 205

Lys Asp Arg Arg Pro Arg Lys Asp Arg Lys Leu Asp Arg Arg Leu Asp
 210 215 220

<210> 29

<211> 262

<212> PRT

<213> Homo sapiens

<400> 29

Met Arg Leu Gly Leu Cys Val Val Ala Leu Val Leu Ser Trp Thr His
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Leu Thr Ile Ser Ser Arg Gly Ile Lys Gly Lys Arg Gln Arg Arg Ile
 20 25 30

Ser Ala Glu Gly Ser Gln Ala Cys Ala Lys Gly Cys Glu Leu Cys Ser
 35 40 45

Glu Val Asn Gly Cys Leu Lys Cys Ser Pro Lys Leu Phe Ile Leu Leu
 50 55 60

Glu Arg Asn Asp Ile Arg Gln Val Gly Val Cys Leu Pro Ser Cys Pro
 65 70 75 80

Pro Gly Tyr Phe Asp Ala Arg Asn Pro Asp Met Asn Lys Cys Ile Cys
 85 90 95

Lys Ile Glu His Cys Glu Ala Cys Phe Ser His Asn Phe Cys Thr Lys
 100 105 110

Cys Lys Glu Gly Leu Tyr Leu His Lys Gly Arg Cys Tyr Pro Ala Cys
 115 120 125

Pro Glu Gly Ser Ser Ala Ala Asn Gly Thr Met Glu Cys Ser Ser Pro
 130 135 140

Ala Gln Cys Glu Met Ser Glu Trp Ser Pro Trp Gly Pro Cys Ser Lys
 145 150 155 160

Lys Gln Gln Leu Cys Gly Phe Arg Arg Gly Ser Glu Glu Arg Thr Arg
 165 170 175

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Arg Val Leu His Ala Pro Val Gly Asp His Ala Ala Cys Ser Asp Thr
180 185 190

Lys Glu Thr Arg Arg Cys Thr Val Arg Arg Val Pro Cys Pro Glu Gly
195 200 205

Gln Lys Arg Arg Lys Gly Gly Gln Gly Arg Arg Glu Asn Ala Asn Arg
210 215 220

Asn Leu Ala Arg Lys Glu Ser Lys Glu Ala Gly Ala Gly Ser Arg Arg
225 230 235 240

Arg Lys Gly Gln Gln Gln Gln Gln Gly Thr Val Gly Pro Leu
245 250 255

Thr Ser Ala Gly Pro Ala
260

<210> 30
<211> 243

<212> PRT
<213> Homo sapiens

<400> 30

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20 25 30

Ser Tyr Val Ser Asn Pro Ile Cys Lys Gly Cys Leu Ser Cys Ser Lys
35 40 45

Asp Asn Gly Cys Ser Arg Cys Gln Gln Lys Leu Phe Phe Phe Leu Arg
50 55 60

Arg Glu Gly Met Arg Gln Tyr Gly Glu Cys Leu His Ser Cys Pro Ser
65 70 75 80

Gly Tyr Tyr Gly His Arg Ala Pro Asp Met Asn Arg Cys Ala Arg Cys
85 90 95

Arg Ile Glu Asn Cys Asp Ser Cys Phe Ser Lys Asp Phe Cys Thr Lys
100 105 110

Cys Lys Val Gly Phe Tyr Leu His Arg Gly Arg Ser Phe Asp Glu Cys
115 120 125

Pro Asp Gly Phe Ala Pro Leu Glu Glu Thr Met Glu Cys Val Glu Gly
130 135 140

Cys Glu Val Gly His Trp Ser Glu Trp Gly Thr Cys Ser Arg Asn Asn
 145 150 155 160

Arg Thr Cys Gly Phe Lys Trp Gly Leu Glu Thr Arg Thr Arg Gln Ile
 165 170 175

Val Lys Lys Pro Val Lys Asp Thr Ile Pro Cys Pro Thr Ile Ala Glu
 180 185 190

Ser Arg Arg Cys Lys Met Thr Met Arg His Cys Pro Gly Gly Lys Arg
 195 200 205

Thr Pro Lys Ala Lys Glu Lys Arg Asn Lys Lys Lys Arg Lys Leu
 210 215 220

Ile Glu Arg Ala Gln Glu Gly His Ser Val Phe Leu Ala Thr Asp Arg
 225 230 235 240

Ala Asn Gln

<210> 31
 <211> 272
 <212> PRT
 <213> Homo sapiens

<400> 31

Met His Leu Arg Leu Ile Ser Trp Leu Phe Ile Ile Leu Asn Phe Met
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 20 25 30

Met His Pro Asn Val Ser Gln Gly Cys Gln Gly Gly Cys Ala Thr Cys
 35 40 45

Ser Asp Tyr Asn Gly Cys Leu Ser Cys Lys Pro Arg Leu Phe Phe Ala
 50 55 60

Leu Glu Arg Ile Gly Met Lys Gln Ile Gly Val Cys Leu Ser Ser Cys
 65 70 75 80

Pro Ser Gly Tyr Tyr Gly Thr Arg Tyr Pro Asp Ile Asn Lys Cys Thr
 85 90 95

Lys Cys Lys Ala Asp Cys Asp Thr Cys Phe Asn Lys Asn Phe Cys Thr
 100 105 110

Lys Cys Lys Ser Gly Phe Tyr Leu His Leu Gly Lys Cys Leu Asp Asn
 115 120 125

Cys Pro Glu Gly Leu Glu Ala Asn Asn His Thr Met Glu Cys Val Ser
 130 135 140

Ile Val His Cys Glu Val Ser Glu Trp Asn Pro Trp Ser Pro Cys Thr
 145 150 155 160

Lys Lys Gly Lys Thr Cys Gly Phe Lys Arg Gly Thr Glu Thr Arg Val
 165 170 175

Arg Glu Ile Ile Gln His Pro Ser Ala Lys Gly Asn Leu Cys Pro Pro
 180 185 190

Thr Asn Glu Thr Arg Lys Cys Thr Val Gln Arg Lys Lys Cys Gln Lys
 195 200 205

Gly Glu Arg Gly Lys Lys Gly Arg Glu Arg Lys Arg Lys Lys Pro Asn
 210 215 220

Lys Gly Glu Ser Lys Glu Ala Ile Pro Asp Ser Lys Ser Leu Glu Ser
 225 230 235 240

Ser Lys Glu Ile Pro Glu Gln Arg Glu Asn Lys Gln Gln Gln Lys Lys
 245 250 255

Arg Lys Val Gln Asp Lys Gln Lys Ser Val Ser Val Ser Thr Val His
 260 265 270

<210> 32

<211> 224

<212> PRT

<213> Homo sapiens

<400> 32

Met Arg Ala Pro Leu Cys Leu Leu Leu Val Ala His Ala Val Asp
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 20 25 30

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 35 40 45

Thr Cys Gln Gln Arg Leu Phe Leu Phe Ile Arg Arg Glu Gly Ile Arg
 50 55 60

Gln Tyr Gly Lys Cys Leu His Asp Cys Pro Pro Gly Tyr Phe Gly Ile
 65 70 75 80

Arg Gly Gln Glu Val Asn Arg Cys Lys Lys Cys Gly Ala Thr Cys Glu
 85 90 95

Ser Cys Phe Ser Gln Asp Phe Cys Ile Arg Cys Lys Arg Gln Phe Tyr

100

105

110

Leu Tyr Lys Gly Lys Cys Leu Pro Thr Cys Pro Pro Gly Thr Leu Ala
115 120 125

His Gln Asn Thr Arg Glu Cys Gln Gly Glu Cys Glu Leu Gly Pro Trp
130 135 140

Gly Gly Trp Ser Pro Cys Thr His Asn Gly Lys Thr Cys Gly Ser Ala
145 150 155 160

Trp Gly Leu Glu Ser Arg Val Arg Glu Ala Gly Arg Ala Gly His Glu
165 170 175

Glu Ala Ala Thr Cys Gln Val Leu Ser Glu Ser Arg Lys Cys Pro Ile
180 185 190

() Gln Arg Pro Cys Pro Gly Glu Arg Ser Pro Gly Gln Lys Lys Gly Arg
195 200 205

Lys Asp Arg Arg Pro Arg Lys Asp Arg Lys Leu Asp Arg Arg Leu Asp
210 215 220